

CLAIMS

What is claimed is:

1. An apparatus for visualization of conditions in the interior of at least one process chamber, comprising:

an inspection chamber for positioning in substantially visually unobstructed proximity to the at least one process chamber; and

a camera provided in said inspection chamber for viewing of the interior of the at least one process chamber.

2. The apparatus of claim 1 wherein said camera comprises a charge coupled device.

3. The apparatus of claim 1 further comprising a motion actuating mechanism operably engaging said camera for moving said camera in said inspection chamber.

4. The apparatus of claim 3 wherein said camera comprises a charge coupled device.

67,200-1112
2002-0974

5. The apparatus of claim 1 further comprising a catch head carried by said camera for removing particles from said inspection chamber.

6. The apparatus of claim 5 wherein said camera comprises a charge coupled device.

7. The apparatus of claim 5 further comprising a motion actuating mechanism operably engaging said camera for moving said camera in said inspection chamber.

8. The apparatus of claim 7 wherein said camera comprises a charge coupled device.

9. The apparatus of claim 1 further comprising a recording device operably connected to said camera for recording images from said camera.

10. The apparatus of claim 9 wherein said camera comprises a charge coupled device.

11. The apparatus of claim 9 further comprising a motion actuating mechanism operably engaging said camera for moving said camera in said inspection chamber.

12. The apparatus of claim 9 further comprising a catch head carried by said camera for removing particles from said inspection chamber.

13. An apparatus for visualization of conditions in multiple process chambers of an integrated cluster tool having a central transfer chamber, comprising:

an inspection chamber for positioning adjacent to the transfer chamber; and

a camera assembly having a camera provided in said inspection chamber for viewing of the interior of the process chambers.

14. The apparatus of claim 13 wherein said camera assembly comprises an elongated camera support and a motion actuating mechanism operably engaging said camera support for bidirectional movement of said camera support in said inspection chamber, and wherein said camera is carried by said camera support.

15. The apparatus of claim 14 further comprising a catch head carried by said camera support for removing particles from said inspection chamber.

16. The apparatus of claim 13 wherein said camera comprises a charge coupled device.

17. An apparatus for visualization of conditions in multiple process chambers of an integrated cluster tool having a central transfer chamber, comprising:

- an inspection chamber for positioning adjacent to the transfer chamber;

- a camera assembly having a camera provided in said inspection chamber for viewing of the interior of the process chambers;

- an electrostatic catch head carried by said camera assembly; and

- a voltage source operably connected to said catch head for imparting an electrostatic charge to said catch head.

67,200-1112
2002-0974

18. The apparatus of claim 17 wherein said camera assembly comprises an elongated camera support and a motion actuating mechanism operably engaging said camera support for bidirectional movement of said camera support in said inspection chamber, and wherein said camera and said catch head are carried by said camera support.

19. The apparatus of claim 17 wherein said camera comprises a charge coupled device.

20. The apparatus of claim 17 further comprising a recording device operably connected to said camera for recording images from said camera.